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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,906	07/12/2005	Derek Geoffrey Finch	033963-015	6242
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EXAMINER				
BARKER, MATTHEWM				
ART UNIT		PAPER NUMBER		
3662				
NOTIFICATION DATE		DELIVERY MODE		
01/07/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary

Application No.

10/541,906

Applicant(s)

FINCH ET AL.

Examiner

MATTHEW M. BARKER

Art Unit

3662

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-28 and 33-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-28 and 33-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17-28 and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Molyneux-Berry (EP 0851238 A2) in view of Rees et al. (US 2004/0046689).

Regarding claim 17, Molyneux-Berry discloses a method of extracting a radial velocity characteristic of a target from one or more coherent radiation pulse bursts comprising the steps of :

- receiving radiation echo returns of the pulse bursts from a remote scene (page 5, line 37);
- processing the echo returns into in-phase (I) and quadrature (Q) components (page 5, lines 39-40);
- measuring returns at intervals to provide sampled data (page 5, lines 46-49);
- applying a predetermined function to the I-Q returns and modifying the predetermined function to match the sampled data as a function of velocity (page 4, lines 7-15);
- determining the target radial velocity in dependence upon said modification step of the predetermined function (page 11, lines 21-24); and

-outputting the determined target radial velocity (page 12, lines 11-12).

Molyneux-Berry discloses modifying the function based on phase but does not discuss modifying the predetermined function based on both phase and amplitude. Rees discloses a related signal processing method including modifying the function based on both phase and amplitude (paragraphs 0088-0091). It would have been obvious to one of ordinary skill in the art to adapt the method of Molyneux-Berry to modify the predetermined function based on both phase and amplitude in order to further enhance the signal to noise ratio (Rees Abstract).

Regarding claim 18, Molyneux-Berry discloses the claimed optimized curve fitting (page 4, lines 20-25).

Regarding claims 19 and 33, Molyneux-Berry discloses the claimed clutter return model (page 4, lines 44-51).

Regarding claim 20, Molyneux-Berry does not specify that the clutter model is a low order polynomial function. However, Rees specifies that the best fit (produced in the modification step of claim 17) is a low order polynomial function in I and Q (paragraph 0091).

Regarding claim 21, Molyneux-Berry discloses extracting target amplitude from the sampled data (page 9, lines 8-13).

Regarding claim 22, Molyneux-Berry discloses extracting range ambiguity (page 2, lines 45-48).

Regarding claim 23, Molyneux-Berry discloses extracting azimuth from the sampled data (page 9, lines 30-31).

Regarding claims 24-26, Molyneux-Berry discloses that the pulse bursts are transmitted at non- constant PRI bursts at a frequency which is changed between successive pulses, and such echo returns are measured at non-equi-spaced intervals (page 4, lines 26-27).

Regarding claim 27, Molyneux-Berry discloses that the pulse bursts are internally coherent (page 2, lines 25-27) and mutually incoherent (page 4, lines 26-27: varied PRI on a burst of pulses basis).

Regarding claim 28, Molyneux-Berry discloses carrying out conventional MTI filtering before step (d) (page 4, lines 38-39).

Regarding claims 34 and 35, Molyneux-Berry discloses that the pulse bursts are transmitted at non- constant PRI bursts at a frequency which is changed between successive pulses (page 4, lines 26-27).

Regarding claim 36, Molyneux-Berry discloses carrying out conventional MTI filtering before step (d) (page 4, lines 38-39).

Response to Arguments

3. Applicant's arguments with respect to claims 17-28 and 33-36 have been considered but are moot in view of the new ground(s) of rejection.
4. It is noted that features upon which Applicant relies in the arguments (i.e., specifics of "helix fitting") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

5. In response to Applicant's challenge of the Examiner's Official Notice regarding claim 20, reference is made to Rees in support of the Examiner's finding.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MATTHEW M. BARKER** whose telephone number is (571)272-3103. The examiner can normally be reached on M-F, 8:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. M. B./

Examiner, Art Unit 3662

/Thomas H. Tarcza/

Supervisory Patent Examiner, Art Unit 3662